

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Previously presented): A photocatalyst sheet comprising;
a substrate made of synthetic fiber,
a coated layer made of a resin or a rubber coated on both sides of said substrate, and
a photocatalyst-containing layer coated on at least one side of said coated layer,
characterized in that; said photocatalyst-containing layer contains;
a resin or a rubber, and
apatite-coated photocatalyst particles,
the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10
– 40 weight %, and
the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst
sheets are mutually thermally welded.

2. (Previously presented): A photocatalyst sheet comprising;
a substrate made of polyester fiber,
a coated layer made of polyvinyl chloride resin coated on both sides of said substrate, and
a photocatalyst-containing layer coated on at least one side of said coated layer,
characterized in that; said photocatalyst-containing layer contains;
polyvinyl chloride resin and acrylic resin, and
apatite-coated photocatalyst particles,
the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10
– 40 weight %, and
the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst
sheets are mutually thermally welded.

3. (Previously presented): A photocatalyst sheet comprising;
a substrate made of inorganic fiber,
a coated layer made of fluorocarbon resin coated on both sides of said substrate, and
a photocatalyst-containing layer coated on at least one side of said coated layer,
characterized in that; said photocatalyst-containing layer contains;
fluorocarbon resin and apatite-coated photocatalyst particles,
the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10
– 40 weight %, and
the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst
sheets are mutually thermally welded.

4. (Previously presented): A photocatalyst sheet comprising a substrate made of glass fiber,
a coated layer made of PTFE coated on both sides of said substrate; and a photocatalyst-containing
layer coated on at least one side of said coated layer, characterized in that
said photocatalyst-containing layer contains fluorocarbon resin being either one of PTFE,
FEP, or PFA and apatite-coated photocatalyst particles,
the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer
is 10 – 40 weight %, and
the peeling rate of said welded part from said substrate is 50 mm/min when said
photocatalyst sheets are mutually thermally welded.

5. (Previously presented): The photocatalyst sheet as set forth in any one of claims 1 – 4,
characterized in that the apatite-coated photocatalyst particles fixed in said photocatalyst
containing layer have parts exposed from the surface of said photocatalyst containing layer.

6. (Currently amended): The photocatalyst sheet as set forth in any one of claims [[3 – 5]] 1 - 4, characterized in that said apatite-coated photocatalyst particles are the photocatalyst particles either a part of the surface of which is coated with apatite, or a whole surface of which is coated with porous apatite.

7. (Original): The photocatalyst sheet as set forth in claim 6, characterized in that the quantity of coating of apatite to be coated on said photocatalyst particles is such that the weight loss ratio of whole of said photocatalyst sheet is 10% or less in case that the ultraviolet light of intensity 18 mW/cm² is irradiated for one hour on the surface of said photocatalyst sheet.

8. (Currently amended): The photocatalyst particle as set forth in any one of claims [[6 or 7]] 1 - 4, characterized in that said photocatalyst sheet is either or both of an ultraviolet light responsive type and a visible light responsive type.

9. (Currently amended): The photocatalyst sheet as set forth in any one of claims [[6 – 8]] 1 - 4, characterized in that said photocatalyst particle contains titanium oxide, and said apatite is either of apatite hydroxide, apatite carbonate, apatite fluoride, or apatite chloride, or the mixture thereof.

10. (Previously presented): The photocatalyst sheet as set forth in claim 1, characterized in that said substrate is made of either of such synthetic fibers as polyamide fiber, polyaramide fiber, polyester fiber, polyvinyl chloride fiber, polyvinylidene chloride fiber, acrylic fiber, polyvinyl alcohol fiber, polypropylene fiber, polyethylene fiber, and others.

11. (Previously presented): The photocatalyst sheet as set forth in claim 1, characterized in that said apatite-coated photocatalyst particles are fixed with the resin or rubber constituting said photocatalyst-containing layer.

12. (Original): The photocatalyst sheet as set forth in claim 11, characterized in that the ratio of said apatite-coated photocatalyst particles to said resin or rubber is 10 - 90 weight %.

13. (Previously presented): The photocatalyst sheet as set forth in claim 1 or 11, characterized in that said resin is either of vinyl chloride, polyethylene, polypropylene, ethylene vinyl acetate copolymer, polyurethane, fluorocarbon, and polystyrene resins, acrylonitrile-butadiene-styrene copolymer, polyamide, acrylic, polycarbonate, methlpentene resins, or the mixture of these thereof and said rubber is either of chloroprene, polyethylenchlorosulfonate, natural, butadiene, styrene, butyl, nitrile, acrylic, urethane, silicone, fluorocarbon, or ethylenepropylene rubbers .

14. (Previously presented): The photocatalyst sheet as set forth in claim 3, characterized in that said fluorocarbon resin is either of polytetrafluoroethylene (PTFE), tetrafluoroethylene-hexa-fluoropropylene copolymer (FEP), tetrafluoroethylene-perfluoroalkylvinylether copolymer (PFA), polyvinyl fluoride (PVF), or polyvinylidene fluoride (PVDF).

15. (Previously presented): A method of welding photocatalyst sheets comprising a substrate made of polyester fiber, coated layers made of polyvinyl chloride coated on both sides of said substrate, and a photocatalyst-containing layer coated on at least one side of said coated layer, characterized in that

said photocatalyst-containing layer contains polyvinyl chloride and acrylic resins, with apatite-coated photocatalyst particles fixed thereon,

the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10 – 40 weight %,

the surfaces to be welded of said photocatalyst sheets are mutually fitted without removing photocatalyst-containing layers and welded together, and

the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst sheets are mutually thermally welded.

16. (Previously presented): The method of welding photocatalyst sheets comprising a substrate made of glass fiber,
a first coated layers made of PTFE coated on both sides of said substrate, and
a photocatalyst-containing layer coated on at least one side of said first coated layer, characterized in that

said photocatalyst-containing layer contains a fluorocarbon resin being either one of PTFE, FEP, or PFA, with apatite-coated photocatalyst particles fixed thereon,

the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10 – 40 weight %,

the surfaces to be welded of said photocatalyst sheets are mutually fitted without removing photocatalyst-containing layers and welded together, and

the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst sheets are mutually thermally welded.

17. (Original): The method of welding photocatalyst sheets as set forth in claim 16, characterized in that in said photocatalyst-containing layer, the ratio of apatite-coated photocatalyst particles to the resin or rubber fixing said apatite-coated photocatalyst particles is 10 - 60 weight %.

18. (Previously presented): A method of manufacturing photocatalyst sheets comprising a substrate made of polyester fiber and
coated layers made of polyvinyl chloride coated on both sides of said substrate, and the outermost layer of at least one side of said coated layer is made a photocatalyst-containing layer by fixing apatite-coated photocatalyst particles, characterized in that

said photocatalyst-containing layer contains polyvinyl chloride resin and acrylic resin,

said photocatalyst-containing layer is formed by coating the dispersion containing apatite-coated photocatalyst particles,

said apatite-coated photocatalyst particles are fixed with polyvinyl chloride resin and acrylic resin which constitute said photocatalyst-containing layer,

the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10 – 40 weight %, and

the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst sheets are mutually thermally welded.

19. (Previously presented): A method of manufacturing photocatalyst sheets comprising a substrate made of glass fiber and coated layers made of PTFE coated on both sides of said substrate, and the outermost layer of at least one side of said coated layer is made a photocatalyst-containing layer by fixing apatite-coated photocatalyst particles, characterized in that

said photocatalyst-containing layer contains fluorocarbon resin being either one of PTFE, FEP, or PFA,

said photocatalyst-containing layer is formed by coating the dispersion containing apatite-coated photocatalyst particles,

said apatite-coated photocatalyst particles are fixed with said fluorocarbon resin which constitutes said photocatalyst-containing layer,

the ratio of said apatite-coated photocatalyst particles to said photocatalyst-containing layer is 10 – 40 weight %, and

the peeling rate of said welded part from said substrate is 50 mm/min when said photocatalyst sheets are mutually thermally welded.

20. (Previously presented): The method of manufacturing photocatalyst sheets as set forth in claim 18, characterized in that said dispersion comprises polycynyl chloride resin and acrylic resin, the apatite-coated photocatalyst particles, and organic solvents.

21. (Previously presented): The method of manufacturing photocatalyst sheets as set forth in claim 19, characterized in that said dispersion comprises fluorocarbon resin being either one of said PTFE, FEP, or PFA, the apatite-coated photocatalyst particles, and water.

22. (Previously presented): The photocatalyst sheet as set forth in claim 3, characterized in that said substrate is made of glass fiber, silica fiber, basalt fiber, or other inorganic fiber.

23. (Previously presented): The welding method of photocatalyst sheets as set forth in claim 15 or 16, characterized in that the resins present on said surfaces to be welded are mutually thermally welded.